

REMARKS/ARGUMENTS

Claims 1-34 remain and are currently pending in the present application. Claims 1-4, 7-9, 12, 16, 20 and 22 have been amended. New claims 29-34 have been added. Reexamination and reconsideration of the application, as amended, are respectfully requested.

NEW CLAIMS 29-34

New claims 29-34 have been added. New claims 29-34 are directed to aspects of the communication system according to the present invention can be implemented. Support for the new claims can be found on pages 11, 15-17 of the specification. No new matter has been added.

REJECTION OF CLAIMS UNDER 35 U.S.C. 112

Claims 9, 16, and 20-22 are rejected under 35 U.S.C. 112, second paragraph, for the reasons set forth in on pages 2 to 3 of the Action.

Regarding claims 9 and 16, the Action states that the description regarding a first and second source route does not specify which of the first or second route is the "loose" and or the "strict" route. In response, claims 9 and 16 has been amended to clarify that the first source route is either a loose source route that specifies a subset of nodes of the route or a strict source route that specifies all the nodes of the route. Moreover, [the second source route is either a loose source route that specifies a subset of nodes of the route or a strict source route that specifies all the nodes of the route.]

Regarding claims 20 and 21, the Action states that the term "description" is unclear. In response, claim 20 has been amended to recite a diversity unit that performs

path identification selection by employing a path diversity service, where the path diversity service provides a description of the paths to utilize selects a path in response to path parameters.

Regarding claim 22, the Action states that the term “one” unclear. In response, claim 22 has been amended to recite that the path diversity unit specifies either all nodes to be traversed or a subset of nodes to be traversed.

In view of the foregoing, it is respectfully submitted that the amended claims fully comply with the requirements of 35 U.S.C. 112, second paragraph. Accordingly, it is respectfully requested that the rejections under 35 U.S.C. section 112 be withdrawn.

REJECTION OF CLAIMS 1-8, 11-15, 18, 19, and 23-28 UNDER 35 U.S.C. 102

Claims 1-8, 11-15, 18, 19, and 23-28 are rejected under 35 U.S.C. 102(e) for the reasons set forth in on pages 3 to 4 of the Action. Specifically, claims 1-8, 11-15, 18, 19, and 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Perkins et al. (U.S. Pat. No. 6,496,477), which is hereinafter referred to as “Perkins” or as the “Perkins reference.”

The rejections under 35 U.S.C. 102 are respectfully traversed, at least insofar as applied to the new claims and amended claims, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth herein below.

The Federal Circuit has ruled, “Under 35 U.S.C. §102, anticipation requires that each and every element of the claimed invention be disclosed in the prior art. . . . In addition, the prior art reference must be enabling, thus placing the allegedly disclosed

matter in the possession of the public.” Akzo N.V. v. United States Int’l Trade Comm’n, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987).

Furthermore, the Federal Circuit has held, “Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

It is respectfully submitted that Perkins fails to teach or suggest the communication method and system as claimed.

Specifically, the Perkins reference fails to teach or suggest inter alia the following claim limitations:

“dynamically changing the path diversity during transmission based on the communication conditions between a sender and a receiver” as claimed in claim 1, or

“wherein the path diversity unit dynamically changes the path diversity during transmission based on the communication conditions between the sender and a receiver,” as claimed in claim 12.

Col. 16, lines 32-60 are cited for teaching the above claimed limitation (see page 4 of the Action, second paragraph). First, Perkins does not appear to teach dynamically changing path diversity during transmission. Instead, Perkins appears to use test packets during a set-up phase to “build a list of intermediate nodes with statistical information that provide acceptable decorrelation for signals originating at a given source 103 and destined for a given destination.” (Col. 16, lines 44-48) This list of nodes is then used during transmission to ensure “independent times of arrival” (col. 16, line 52-55). However, there does not appear to any teaching or suggestion of modifying path diversity during transmission of information. Furthermore, Perkins

does not appear to fairly teach, [“dynamically changing the path diversity during transmission based on the communication conditions between a sender and a receiver.”]

The dependent claims incorporate all the limitations of the independent claim. In this regard, the dependent claims 2-11 & 13-34 also add additional limitations, thereby making the dependent claims a fortiori and independently patentable over the cited references.

For example, claim 5 further recites the step of “dynamically changing the number of paths based on the communication conditions between the sender and receiver.” Similarly, claim 6 further recites the step of “dynamically changing at least one node of the first path or the second path based on the communication conditions between the sender and receiver.” Page 4 of the Action cites Col. 16, lines 32-60 of Perkins for teaching the above claimed limitations. It is respectfully submitted that the cited portion fails to teach or suggest the invention as claimed.

The cited portion is directed to the sending of test packets by a source node 14 for gathering QoS data of various intermediate nodes for use in plotting on a decorrelation plot (see Col. 16, lines 32-36). “The coordinates of any one point on the decorrelation plot are (QoS.sub.A, QoS.sub.B) where QoS.sub.A is a value of QoS of transmissions through node 131 and QoS.sub.B is a value of QoS of transmissions through node 133.” (Col. 16, lines 38-41) Perkins then computes a correlation from this data. “Correlation r is computed from these QoS pairs according to any standard statistical correlation calculation formula.” (Col. 16, lines 41-43)

In this manner, the Perkins system “builds up a list of intermediate nodes and their correlations and selects particular intermediate nodes like 131, 133 from the list and through which packets and dependent packets are respectively sent on their way to

destination 105.” (Col. 16, lines 44-48) As described previously, Perkins does not appear to teach dynamically changing path diversity during transmission.

Regarding new claim 29, it is respectfully submitted that Perkins, whether alone or in combination, fails to fairly teach, “allowing an application to specify to one of a sender and a path diversity service at least one QoS parameter for each substream of packets,” as claimed.

Regarding new claim 30, it is respectfully submitted that Perkins, whether alone or in combination, fails to fairly teach, “Forward Error Correction Coding to one of packets sent along one of the paths and across packets sent along multiple paths and interleaving to one of packets sent along one of the paths and across packets sent along multiple paths,” as claimed.

Regarding new claim 31, it is respectfully submitted that Perkins, whether alone or in combination, fails to fairly teach, “wherein the first stream and the second stream are dependent on each other; and wherein the sender applies interleaving and Forward Error Correction Coding to one of packets sent along one of the paths and across packets sent along multiple paths,” as claimed.

Regarding new claim 32, it is respectfully submitted that Perkins, whether alone or in combination, fails to fairly teach, “wherein the sender employs path-hopping path diversity,” as claimed.

Regarding new claim 33, it is respectfully submitted that Perkins, whether alone or in combination, fails to fairly teach, “wherein the path diversity unit assigns streams to paths in one of a deterministic fashion, random fashion, and pseudo-random fashion,” as claimed.

Regarding new claim 34, it is respectfully submitted that Perkins, whether alone or in combination, fails to fairly teach, “wherein the receiver can be one of a receiver that has no knowledge about path diversity transmission and a receiver that includes a mechanism for tracking the communication quality of each path and communicating the communication quality of each path to the sender for use in optimizing the transmission,” as claimed.

In view of the foregoing, it is respectfully submitted that the Perkins reference fails to teach or suggest the communication method and system as claimed. Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. section 102(e) be withdrawn.

REJECTION OF CLAIMS 10 AND 17 UNDER 35 U.S.C. 103

Claims 10 and 17 are rejected under 35 U.S.C. 103(a) for the reasons set forth on pages 5 & 6 of the Action. Specifically, claims 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al. (U.S. Pat. No. 6,496,477) in view of Narayanaswami et al. (U.S. Pat. No. 6,477,117), which is hereinafter referred to as the Narayanaswami reference.

The rejections under 35 U.S.C. 103 are respectfully traversed, at least insofar as applied to the new claims and amended claims, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth hereinbelow.

Even if Perkins and Narayanaswami are properly combined, which is not conceded, it is respectfully submitted that such a combination still fails to teach or suggest the following claim limitations:

{“dynamically changing the path diversity during transmission based on the communication conditions between a sender and a receiver,” as claimed in claim 1, or

“wherein the path diversity unit dynamically changes the path diversity during transmission based on the communication conditions between the sender and a receiver,” as claimed in claim 12.

Furthermore, the Federal Circuit has held, “The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself.” In re Oetiker, 977 F.2d 1443, 24 USPQ 2d 1443, 1446 (Fed. Cir. 1992)

It is respectfully submitted that Perkins and Narayanaswami are improperly combined. It appears that the Action uses improper hindsight to selectively pick pieces from Perkins and other pieces from Narayanaswami to arrive at the claimed invention. First, Narayanaswami reference is directed to a very different field of invention than the Perkins reference. For example, Narayanaswami is directed to “An Alarm Interface for a Smart Watch.” Second, the Action cites col. 1-2, lines 65-5 as motivation to combine Perkins and Narayanaswami. Specifically, the portion states, “It would thus be highly desirable to provide a wearable device/appliance (a wrist watch) capable of wirelessly accessing information and equipped with an interactive user interface and high resolution display for providing a variety of desktop PC-like functions.” It is respectfully suggested that this quoted portion is deficient and would not have

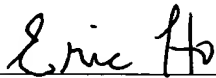
motivated one of ordinary skill in the art to combine the pieces of Perkins and Narayanaswami in the manner suggested by the Action.

Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. section 103(a) be withdrawn.

Conclusion

For all the reasons advanced above, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the pending claims are requested, and allowance is earnestly solicited at an early date. The Examiner is invited to telephone the undersigned if the Examiner has any suggestions, thoughts or comments, which might expedite the prosecution of this case.

Respectfully submitted,



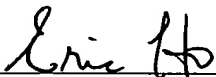
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August 23, 2003
(Date)